

**ZHONGZI LAW OFFICE**

*Chinese Patent Application for Invention No. 200480013066.9*

*English Translation of the text portion of the first Office Action*

The present application relates to auxiliary agents for leather production, and as described in the specification, it is an object of the present invention to provide the use of graft copolymers which contain at least one monoethylenically unsaturated monomer which is incorporated in the form of polymerized units and comprises at least one nitrogen-containing heterocycle, as assistants for leather production. Upon examination, the Examiner issued the following comments:

1. Claim 1 is directed to the use of graft copolymers which comprise at least one monoethylenically unsaturated monomer which is incorporated in the form of polymerized units and comprises at least one nitrogen-containing heterocycle, as an assistant for leather production.

Whereas, D1 has disclosed a liquid or solid mixture comprised of a complex dye and a copolymer of N-vinylpyrrolidone and vinyl acetate (vide claim 1 of D1). N-vinylpyrrolidone in D1 is a concrete concept of the monoethylenically unsaturated monomer which comprises at least one nitrogen-containing heterocycle as recorded in claim 1 of the present invention, and is incorporated into the copolymer in the form of polymerized units, too; besides, as indicated in D1, the copolymer is used for stabilizing and diffusing the complex dye for the further purpose of finishing and dyeing leather (vide p. 3 of the specification of D1). It is clear that in fact, D1 has disclosed the use of said copolymer as an auxiliary agent for leather production. That shows D1 has disclosed the majority of the technical features of the technical solution of claim 1 of the present invention, and the sole difference lies in that claim 1 of the present invention further recites that the copolymer therein is a "graft copolymer". But, for one thing, said claim doesn't recite that said monoethylenically unsaturated monomer right is the "graft" part, nor does D1 exclude the possibility of the formation of a graft copolymer; for another, the present specification doesn't show that a "graft copolymer" is more beneficial than a non-graft copolymer. Therefore, compared with D1, the technical solution of claim 1 possesses neither prominent substantive feature nor notable progress and thereby is objectionable under Article 22.3 of the Patent Law for lack of inventiveness.

2. Claim 2 further defines that the graft copolymers contain at least two different monomers which are incorporated in the form of polymerized units and in each case contain at least one nitrogen-containing heterocycle. However, although D1 doesn't disclosed that technical solution directly, as shown in the application results of copolymers containing respectively one and two different nitrogen-containing heterocycles as polymerized units (P1 and P2) in the examples of the present application, the copolymer containing two nitrogen-containing heterocycles as polymerized units don't exhibit any effect that is more beneficial than the former, but in contrast, it is even inferior to the former in terms of many indexes (vide the data in the table given in the examples of the present application); that is to say, the technical solution further defined in claim 2 possesses neither prominent substantive feature nor notable progress compared with D1. Therefore, the technical solution of claim 2 is objectionable under Article 22.3 of the Patent Law for lack of inventiveness.

**ZHONGZI LAW OFFICE**

3. Claim 7 is directed to a process for the production of leather using at least one assistant for leather production, and claim 9 is directed to leather thus produced. But, D1 has disclosed or implicated such process and leather (vide pp. 1-3 of the specification of D1). Therefore, for the same reasons mentioned in Item 1, compared with D1, none of the technical solution of said claims possesses prominent substantive feature and notable progress, and thus said claims are objectionable under Article 22.3 of the Patent Law for lack of inventiveness.
4. "Monomer" is a "simple compound capable of causing polymerization, polycondensation or the like so as to form a macromolecular compound" (vide p. 121, Dictionary of Chemical Engineering, 4<sup>th</sup> ed.); however, as a macromolecular compound obtained by copolymerization, a "copolymer" can only contain polymerized units derived from certain monomers, instead of contain "...monomer". Thus, the expression "graft copolymers which comprise ... monomer" or any similar expressions defined in claims 1-3 and 7-8 make them unclear. Therefore, said claims are objectionable under Rule 20.1 of the Implementing Regulations of the Patent Law.

The specification has the same problems and thus is unclear, either. Therefore, the specification is objectionable under Rule 18.3 of the Implementing Regulations of the Patent Law.

5. Claims 3 and 8 are unclear, since the meanings of "B1" and "B2" recited in these two claims are uncertain. Therefore, said two claims are objectionable under Rule 20.1 of the Implementing Regulations of the Patent Law.
6. The selection relation shown in the expression "polymeric side chains B formed from copolymers of at least one ... selected from B1 and B2 or monomers B1 and B2" is indefinite, because of the chaotic uses of the logic terms "and" and "or"; furthermore, it is unclear whether B3 contained in the expression "monoethylenically unsaturated monomer ... and, if required, B3, ... and optionally further comonomers B3" is a monoethylenically unsaturated monomer or not. In sum, the structural units of the defined chains B are unclear. Therefore, claim 4 is objectionable under Rule 20.1 of the Implementing Regulations of the Patent Law for being unclear.

The specification has the same problems and thus is unclear, either. Therefore, the specification is objectionable under Rule 18.3 of the Implementing Regulations of the Patent Law.

7. In accordance with Rule 23.2 of the Implementing Regulations of the Patent Law, any multiple dependent claim, which refers to two or more claims, shall not serve as a basis for any other multiple dependent claims. However, multiple dependent claims 4-6 still each refer to their preceding multiple dependent claims. Therefore, claims 4-6 are objectionable under Rule 23.2 of the Implementing Regulations of the Patent Law.

For the abovementioned reasons, the present application is not allowable as such. The applicant should meet the specified time limit for overcoming all the existing deficiencies. It is to be noted that, according to Article 33 of the Patent Law, the amendments shall not go beyond the scope of disclosure of the original specification and claims.